

# ROUTE FF CORRIDOR STUDY



OTO Technical Planning Committee

2/15/2023



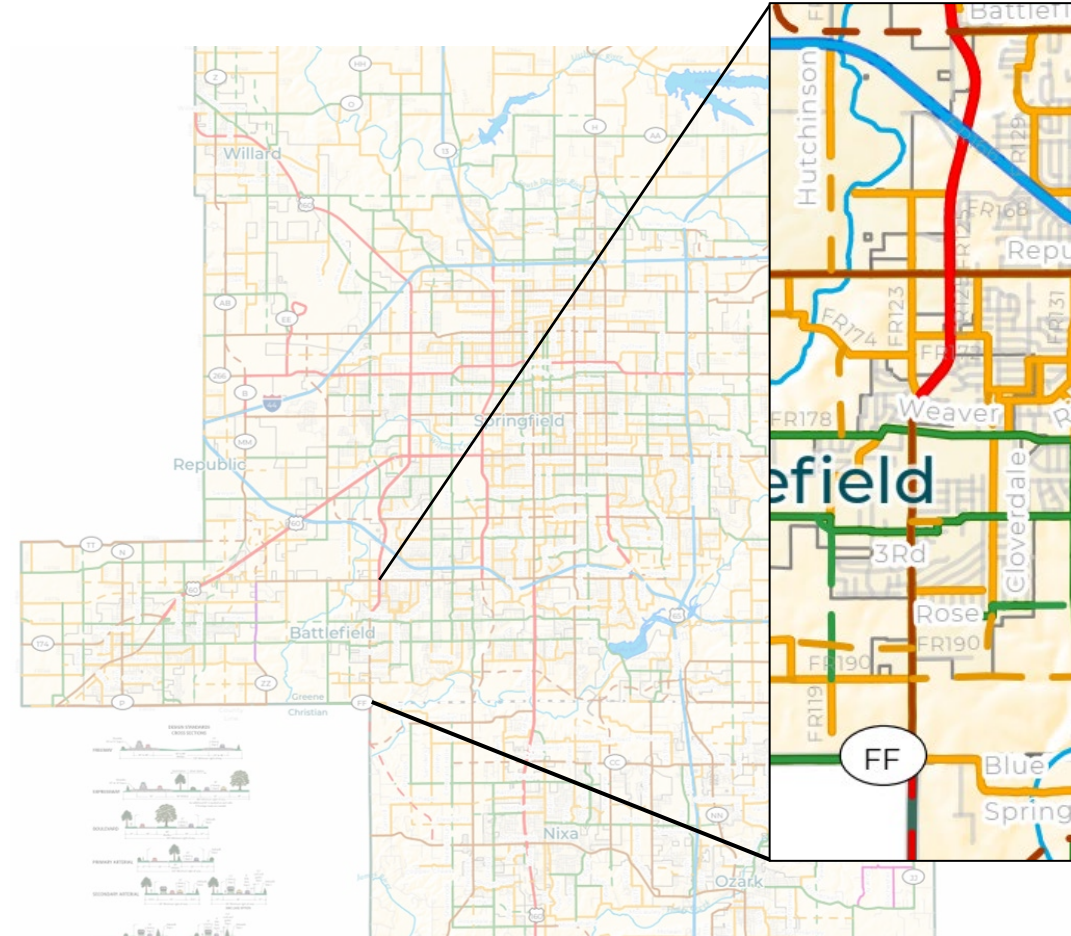
# AGENDA

- Project Goals
- Existing conditions & constraints
  - Traffic and Safety
  - Right of way
  - Utility
  - Environmental
- Route FF recommendations
  - Design
  - Planning
- Engagement
- Schedule & Next steps



# STUDY AREA

- Route FF in Battlefield
- Farm Road 123 on the north
- Blue Springs Road on the south



# PROJECT GOALS

## KEY PROJECT GOALS



Reduce speeds  
(not to exceed 35mph)



Foster vision of the local  
Battlefield Community



Traffic calming  
corridor wide



Intersection  
enhancements



Pedestrian connectivity

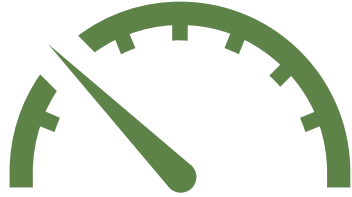


Accommodate future  
trail crossings



Accommodate future  
FR 190

# WHY?



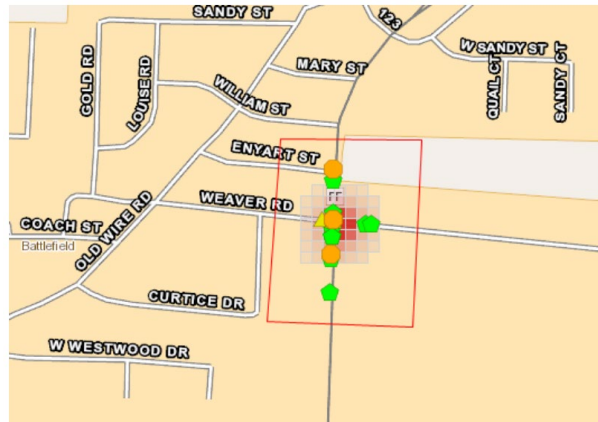
## Reduce speeds

- Citizens very vocal about desire for lower speeds on Route FF
- Increase safety for all users including multi-modal users



## Safety

- Reduce crashes
- Increase walkability



## Population growth

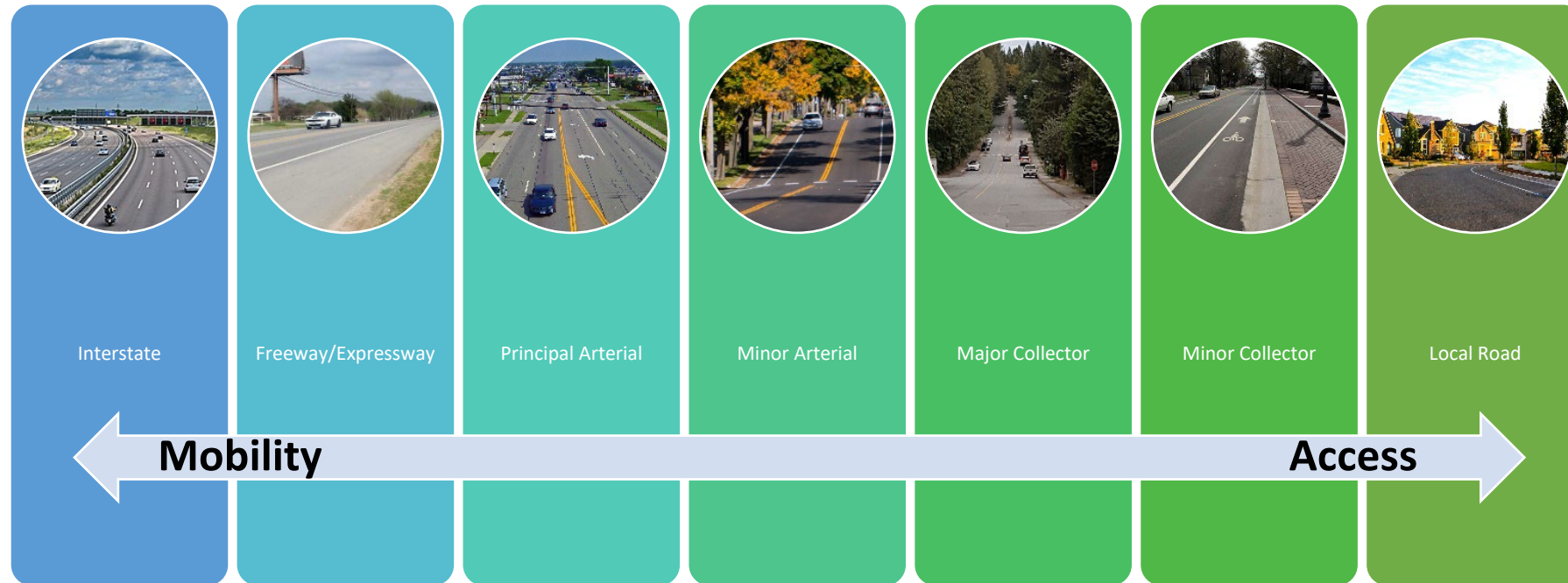
- Battlefield – over doubled in size (2000 – 2020)
- Springfield region - +100k since 2000
- Be prepared to respond to ongoing traffic increases from growth





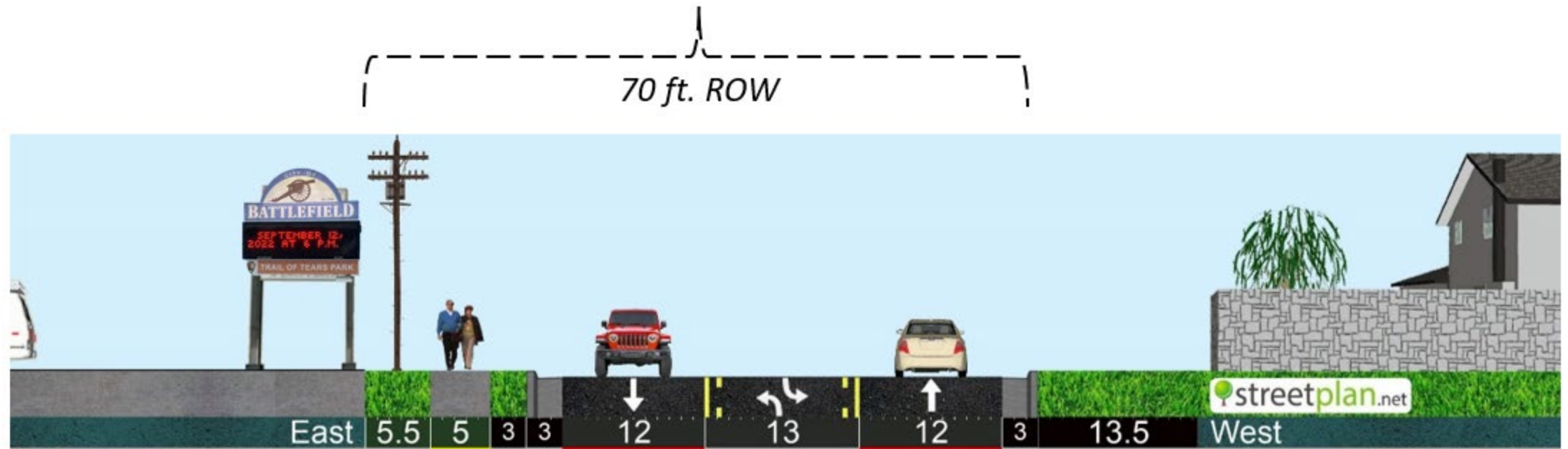
# EXISTING CONDITIONS & CONSTRAINTS

# EXISTING CONDITIONS



- Principal arterial from Farm Road 123 – Weaver
- Major collector from Weaver to Blue Springs

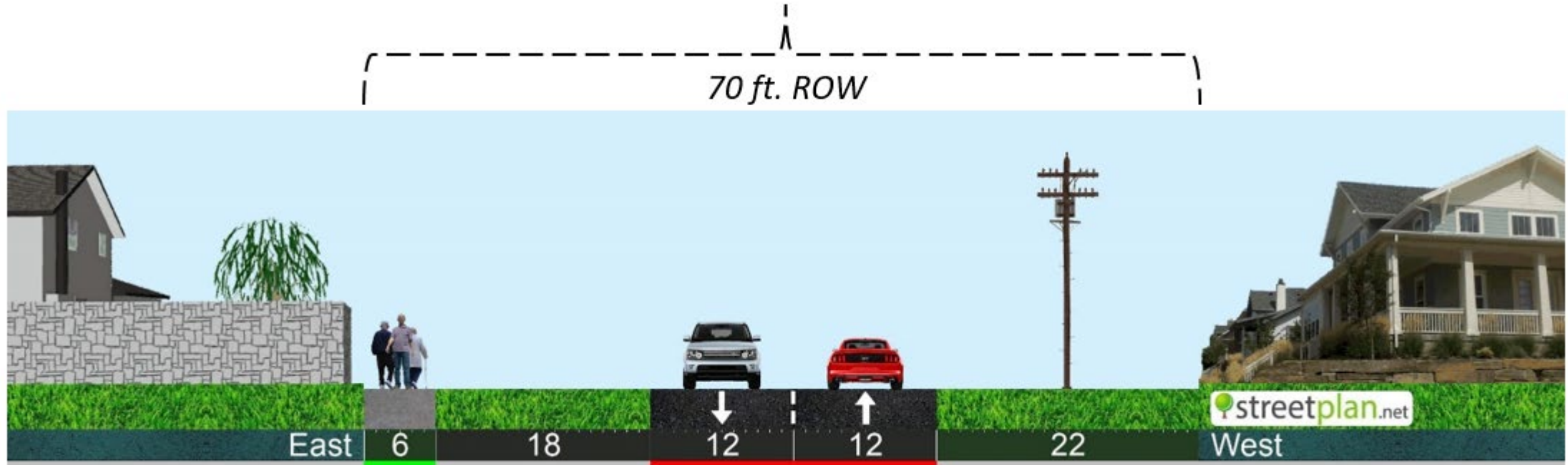
# EXISTING CONDITIONS – SEGMENT 1



- Pedestrian accommodations one side of street
- No bike accommodations
- Wider lanes (12' thru and 13' center) do not slow down traffic
- Lacks identification/branding as you enter Battlefield

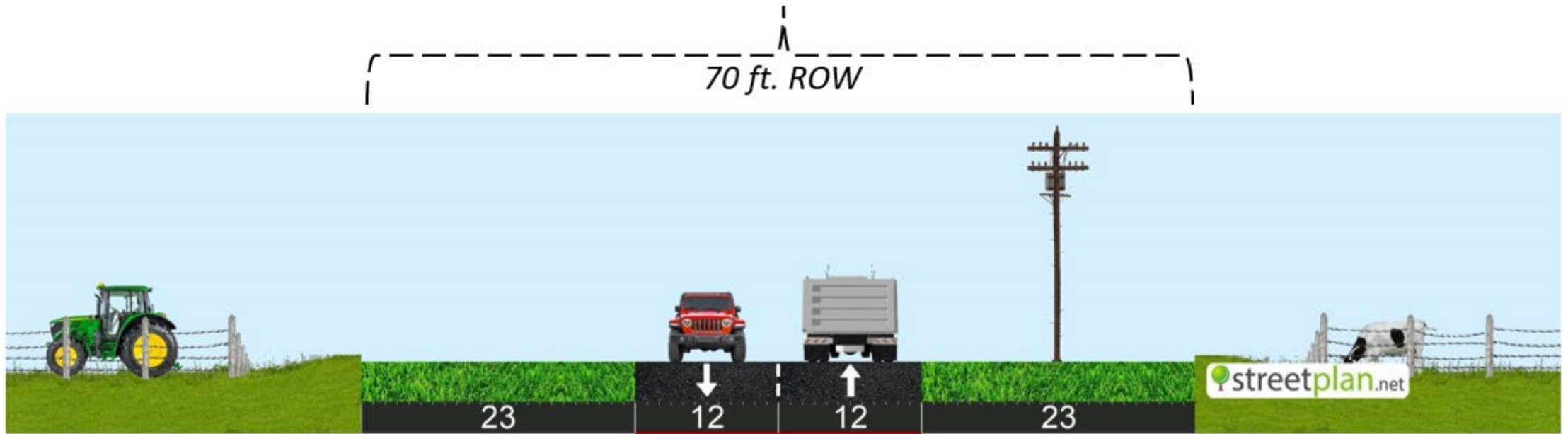


# EXISTING CONDITIONS – SEGMENT 2



- Pedestrian accommodations one side of street
- No bike accommodations
- No dedicated turning space
- Lacks identification/branding in 'Downtown' Battlefield

# EXISTING CONDITIONS – SEGMENT 3



- No bike or pedestrian accommodations
- No dedicated turning space
- Lacks identification/branding as you enter Battlefield

# TRAFFIC & SAFETY

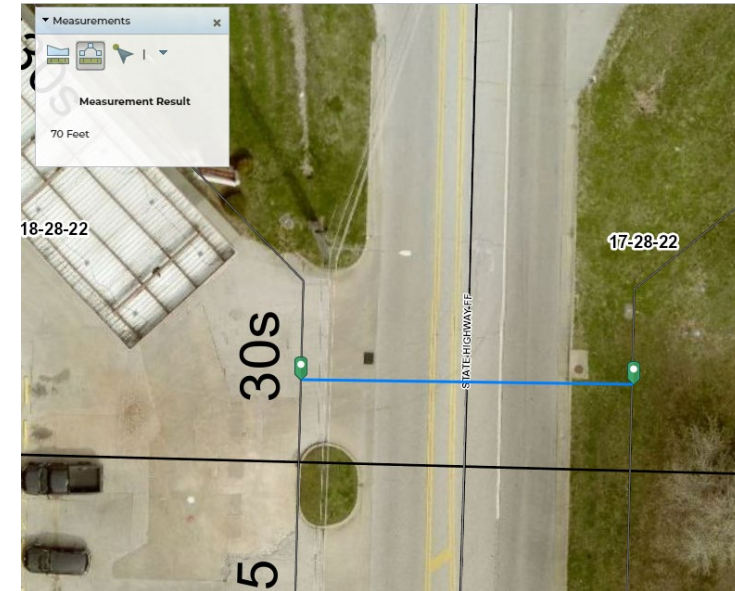
## Traffic Projections

Roadway Segment	Existing Traffic Volumes	Future Traffic Projections*
Segment 1 - FR 123 to Weaver Rd	10,600 ADT	14,700 ADT to 16,500 ADT
Segment 2 - Weaver Rd to Azalea Terr	6,000 ADT Weaver to 3rd 9,000 ADT 3rd to Azalea	12,100 ADT to 14,500 ADT
Segment 3 - Azalea Terr to Blue Springs Rd	2,500 ADT	6,800 ADT to 10,900 ADT
<p>*Future Traffic projections based on the following traffic scenarios:</p> <ol style="list-style-type: none"><li>1. The extension of Kansas Expressway to the South</li><li>2. Construction of an East-West connector roadway near FR 190</li><li>3. Extending Route FF to the South and connecting to Route 14</li></ol> <p>ADT- Average Daily Traffic Volume</p>		



# RIGHT OF WAY

- Between FR 123 & William 205 – 85 ft.
- 70 ft ROW north and south of Weaver
- Narrows to 50' ROW just south of Monterrey, widens to 70' approx. 265' north of 3<sup>rd</sup>
- 80 ft ROW south of 3<sup>rd</sup>, widening to 95' midway between 2<sup>nd</sup> and 1<sup>st</sup>
- 75' ROW narrowing to 70' between 1<sup>st</sup> and Somerset
- 65' ROW between Somerset and Azalea
- At major intersections – additional over 80' to accommodate sight distance needs



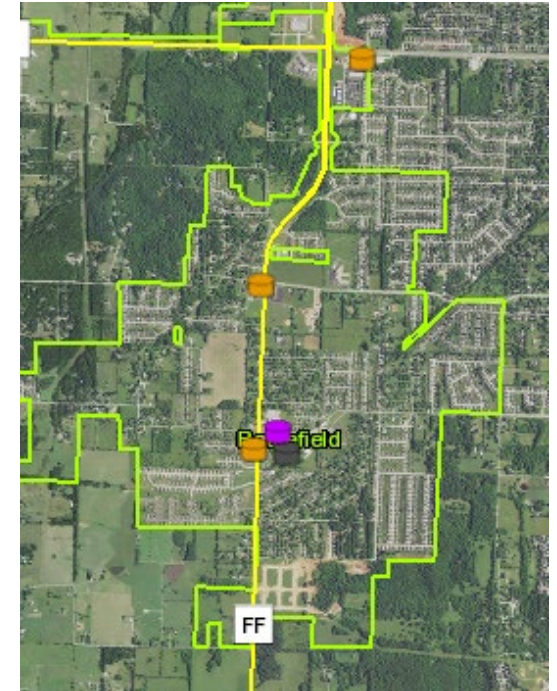
# UTILITIES

- 3 known Transmission facilities
  - Southern Star Gas main crossing north of Weaver Road
  - Verizon toll fiber 1650 ft. south of 3<sup>rd</sup> Street
  - CU 161kV powerline crossing 1050 ft. south of Azalea Terrace
- Takeaways
  - Relocations typically during spring or summer months when demand is low
  - Can impact project schedule
  - Will have to move overhead utility power due to expanded roadway footprint



# ENVIRONMENTAL

- Wetlands –multiple assets mapped in study area, will require 404/401 permitting
- Threatened and endangered species – 5 potential in study area, will require MDC coordination
- Cultural resources – no national register sites
- Hazardous waste sites – 5 sites, will require investigation during design
- Floodplain – small zone A portion in SW edge, requires floodplain development permit
- Parkland/4(f) properties – none
- Farmland – NRCS coordination near farmland in S area of study
- Noise – noise analysis required if Type I or Type II project







# RECOMMENDATIONS

# DESIGN RECOMMENDATIONS

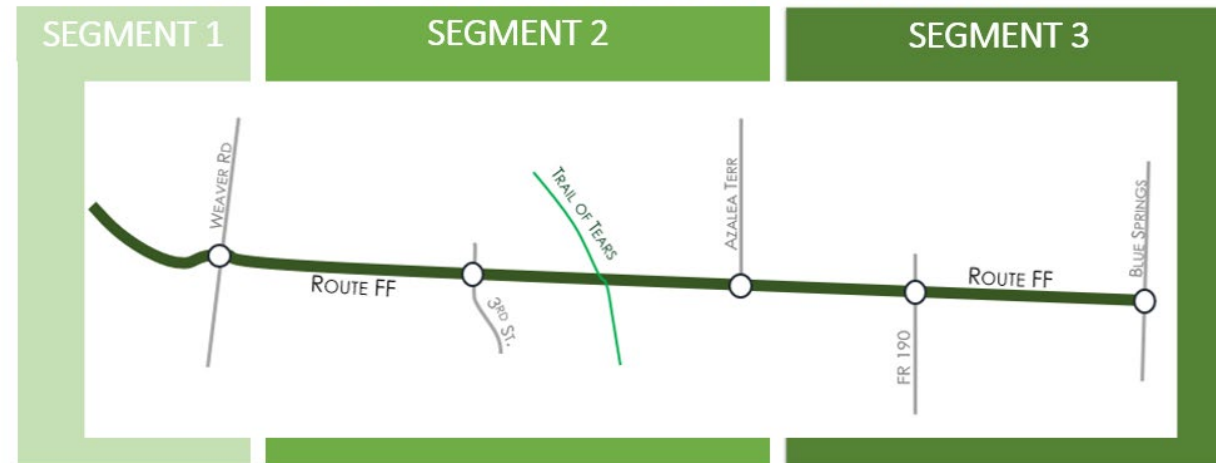
## DESIGN

- 3 – lane typical section (80' ROW Weaver to Blue Springs)\*
- Design speed 35 mph (secondary arterial status)
- Multimodal - 10 ft' Shared Use Path (east) & sidewalk (west)
- Roundabouts at Weaver, 3rd, Azalea, Future FR 190 connection & Blue Springs
- Updated ped crossings at intersections & Trail of Tears crossing near Somerset
- Corridor wide traffic calming enhancements (narrowed lanes/ raised medians)
- 80' ROW to accommodate typical secondary arterial design standards

\*4-lane typical section recommended from FR 123 to Weaver; 3-lane section may incorporate center medians in future downtown Battlefield for traffic calming & access management



## PROPOSED INTERSECTION IMPROVEMENTS





# DESIGN RECOMMENDATIONS

## Weaver Roundabout Cost Estimate

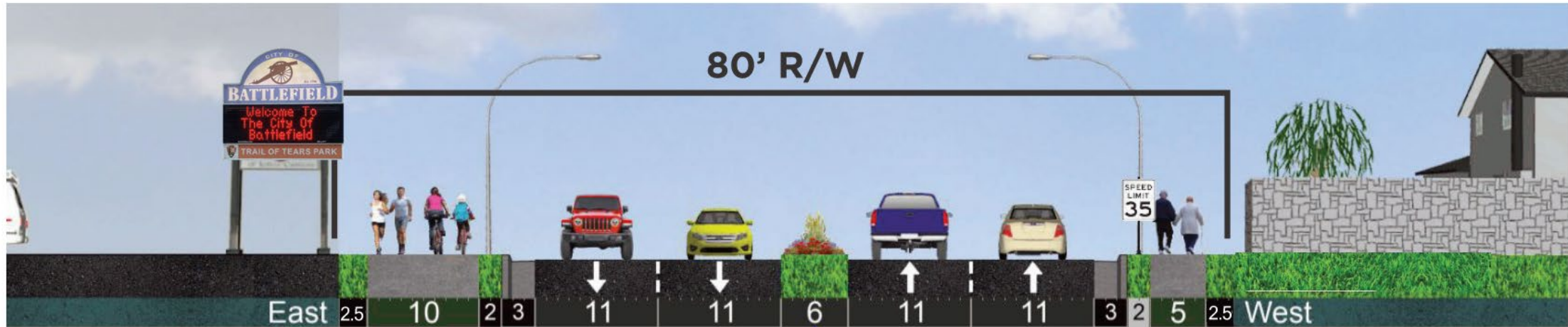
Route FF @ Weaver Road Cost Estimate	
Construction Costs	2.29M
Right of Way Costs	150K
Utility Costs	400K
PE (18%)	412K
CE (25%)	572K
TOTAL	\$3.82M





# DESIGN RECOMMENDATIONS

## Segment 1: FR 123 to Weaver

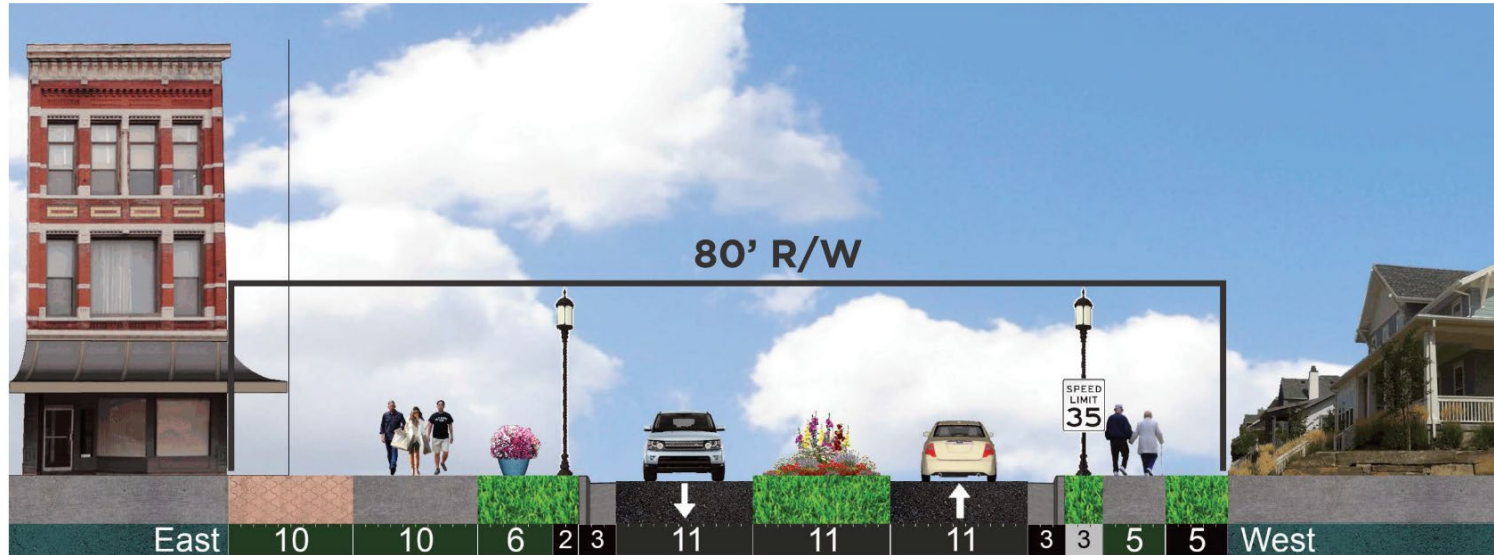


### Key components:

- Raised center median to match roadway section to the north
- 4-Lane section ending at Weaver Rd Roundabout
- Narrower lanes (11') to encourage lower speeds
- Removal of full access intersections (RIRO or no access)
- Multi-Use Path on one side, sidewalk on the other side

# DESIGN RECOMMENDATIONS

## Segment 2: Weaver to Azalea Terrace

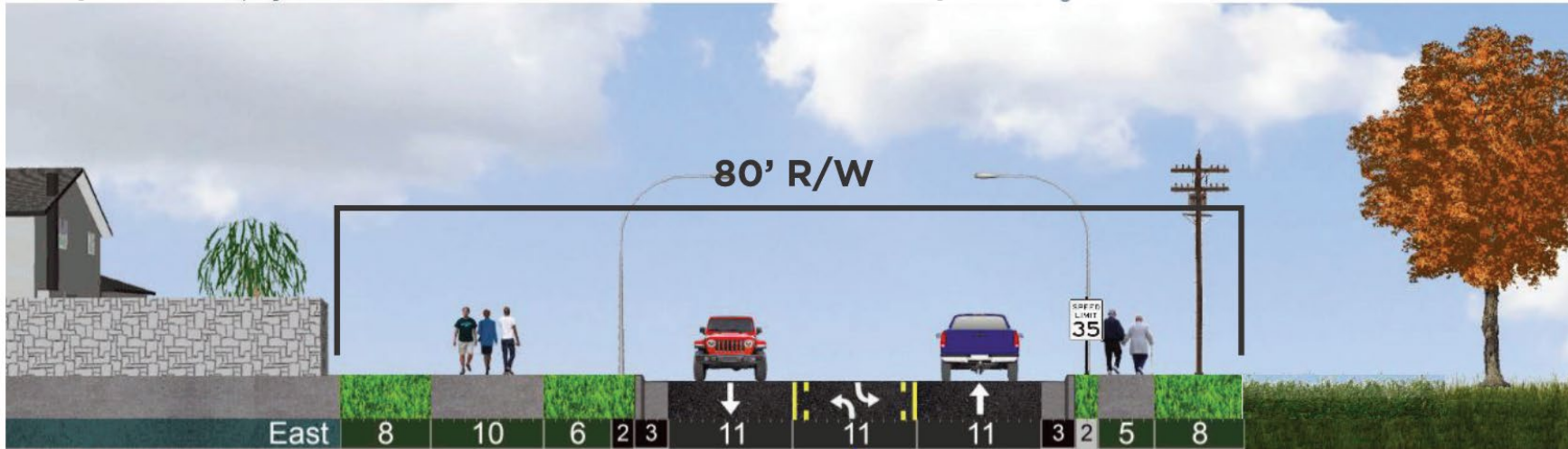


### Key components:

- Raised center median to encourage slower speeds
- Median openings at strategic location to allow access to sideroads (Further study necessary)
- Narrower lanes (11') to encourage lower speeds
- Help to distinguish a “downtown” Battlefield as proposed by the City
- Multi-Use Path on one side, sidewalk on the other side
- Would accommodate potential on-street parking (Parallel) as area develops
- Underground utilities
- Trail of Tears crossing

# DESIGN RECOMMENDATIONS

## Segment 3: Azalea Terrace to Blue Springs



Key components:

- Three lane section with center turn lane
- Narrower lanes (11') to encourage lower speeds
- Lack of raised median allows for better access as area develops
- Multi-Use Path on one side, sidewalk on the other side



# DESIGN RECOMMENDATIONS

## Roundabout Benefits

### SPEEDS:

- Lower vehicle speeds due to yield at entry
- 2.5mph lower entry point speed than typical traffic signal\*

### MAINTENANCE:

- Only electric for lighting & landscaping; not constant electric needs of signal



\*Federal Highway Administration

# PLANNING RECOMMENDATIONS

## PLANNING

- Reclassify FF as a secondary arterial on OTO Major Thoroughfare Plan (MTP)
- Update Battlefield Subdivision Regulations
  - 405.390 Access Management
  - 405.400 OTO MTP update text
  - 405.400 Design standards
  - 405.410 sidewalk provisions
- Assign roadway improvement needs for future development
- Explore street renaming & branding
- Corridor wide traffic calming

# IMPLEMENTATION FRAMEWORK

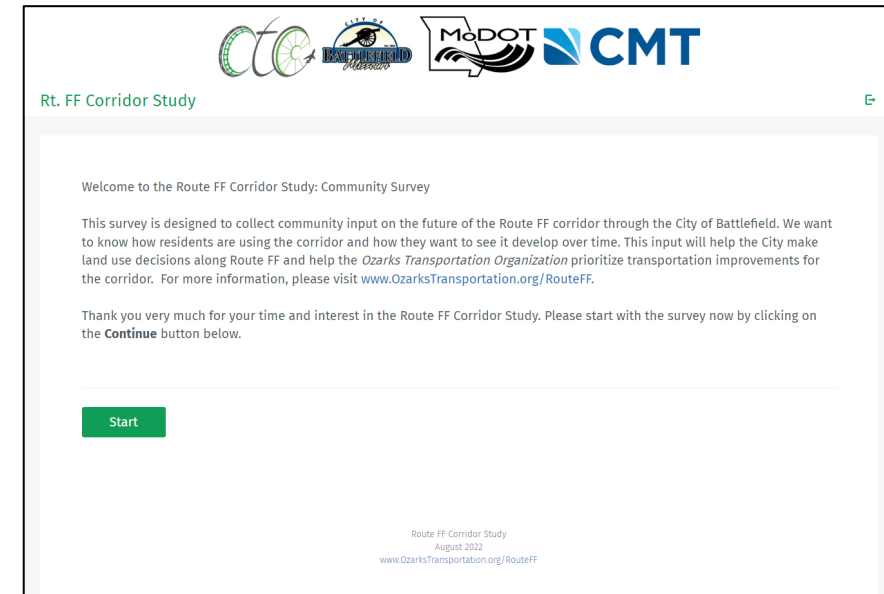
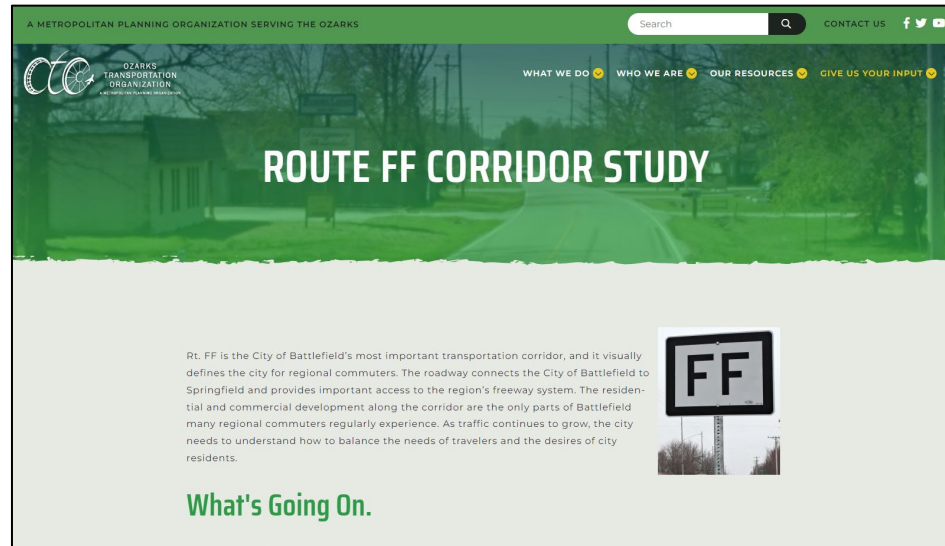
Recommended Design Treatments		Timing	Recommended Planning Treatment	Timing
3-lane typical section; 80' ROW (secondary arterial design guidance)	ADT threshold of 11,000 is reached	During corridor redesign (ADT threshold reached)	Reclassify Route FF as a secondary arterial on the MTP (OTO)	Early 2023
Design speed 35mph (governed by secondary arterial)				
10' SUP on E Side & sidewalk on W side	During corridor redesign (ADT threshold reached)		Explore a name change/ street rebranding	Start now
Roundabouts at Weaver, 3rd, Azalea, Future FR 190 connection & Blue Springs	(1st) Weaver -high crash location (2nd) 3rd-high crash location & complement to R/A at Weaver	During corridor redesign (ADT threshold reached)	Update Battlefield Street Design Standards/subdivision regulations	2023
Trail of Tears crossing at Somerset				
Updated high visibility crosswalks throughout	During corridor redesign (ADT threshold reached)	Depending on specific treatment, during corridor redesign or as adjacent developments occur	Assign roadway improvements for future development needs	After subdivision regulation updates
Corridor-wide traffic calming				





# ENGAGEMENT

# ENGAGEMENT PLAN



# PUBLIC MEETING 1 & INITIAL SURVEY

- 59 survey participants (most live in Battlefield or use FF regularly)
- 86 meeting attendees (August 2nd)





# PUBLIC MEETING 2 & FINAL SURVEY

- 23 meeting attendees (January 24)
- 12 people participated in priority survey
- Priority rankings by responses:
  - Roundabout at Weaver & FF (1)
  - 3-lanes from Weaver to Blue Springs (2)
  - Roundabout at 3<sup>rd</sup> (t-3)
  - New crosswalks throughout at intersections (t-3)





# FINAL PLAN & NEXT STEPS

# NEXT STEPS

- 3/16 – OTO Board of Directors Meeting
- End of March – final report to OTO
- Major Thoroughfare Plan amendment – first half of 2023 (initial need)
- Route FF & Weaver Road Roundabout – prioritize for inclusion in 2024-28 STIP (winter/spring 2023)
- 3<sup>rd</sup> Street Roundabout – will require additional feasibility study for re-alignment of 3<sup>rd</sup> Street (as funding becomes available)
- Azalea Terrace – side street connectivity improvements recommended (as funding becomes available)
- Battlefield policy timeline – TBD pending economic development study (Ongoing)